PIZZA SALES ANALYSIS USING MYSQL

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PIZZA TRENDS

- A DATA-DRIVEN CASE STUDY ANALYZING PIZZA SALES, REVENUE, AND PERFORMANCE USING SQL QUERIES

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ABOUT PROJECT

THIS CASE STUDY EXPLORES A COMPLETE SQL-BASED ANALYSIS OF A PIZZA RESTAURANT'S SALES DATA.
USING A RELATIONAL DATABASE (ORDERS, ORDER DETAILS, PIZZAS, AND PIZZA TYPES), WE ANALYZE:

- TOTAL SALES AND REVENUE
- CUSTOMER ORDER PATTERNS
- BEST-PERFORMING PIZZAS
- CATEGORY-WISE AND TIME-BASED TRENDS
- REVENUE CONTRIBUTION AND GROWTH OVER TIME

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PROJECT OVERVIEW & DATABASE STRUCTURE

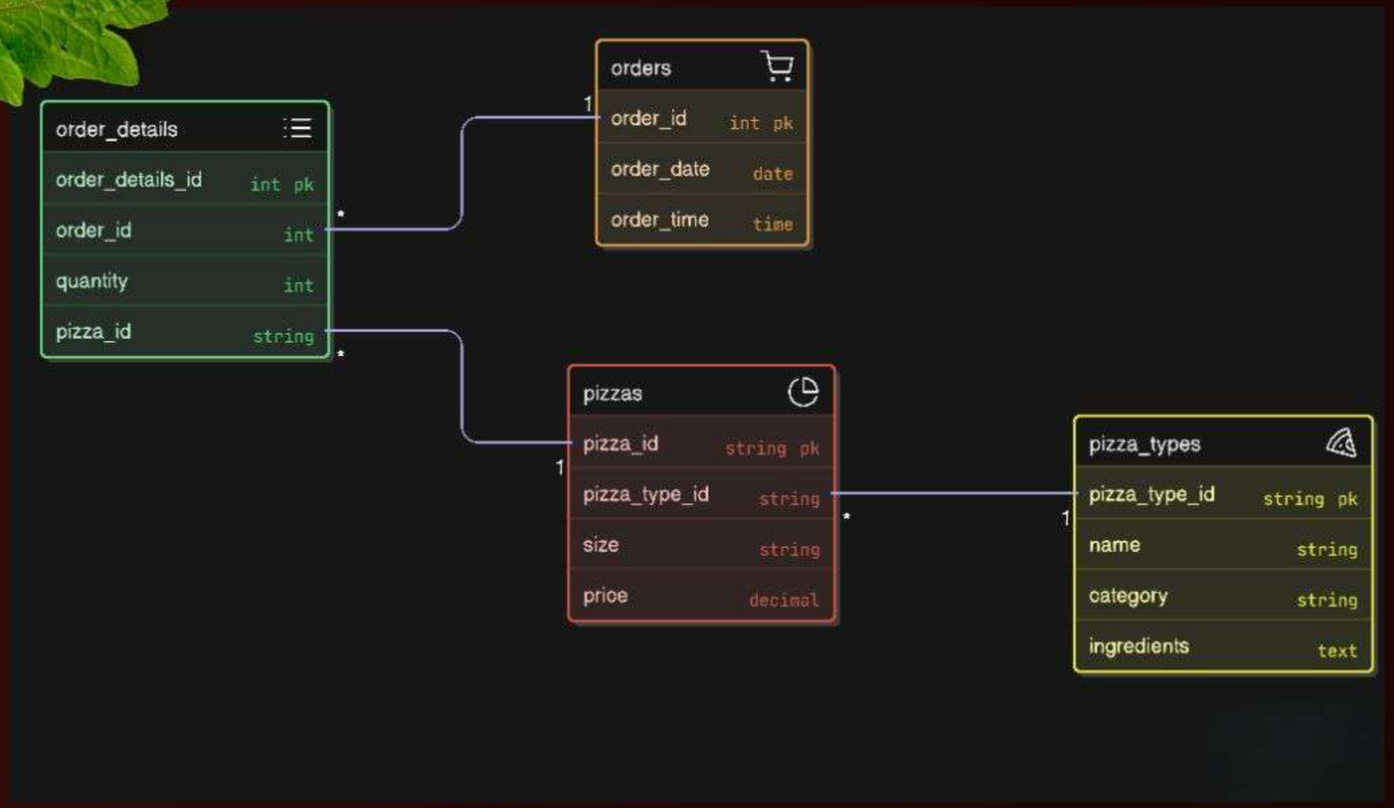

Table Name	Description	Key Columns
orders	Stores all orders placed by customers	order_id, order_date, order_time
order_details	Contains details of each pizza ordered in	order_details_id, order_id, pizza_id,
pizzas	Includes pizza size, price, and type	pizza_id, pizza_type_id, size,
pizza_types	Contains pizza names and their category	pizza_type_id, name, category

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BASIC OVERVIEW METRICS

-THESE QUERIES SHOW THE TOTAL NUMBER OF ORDERS PLACED AND THE OVERALL REVENUE GENERATED FROM ALL PIZZA SALES.

```sql
SELECT
    pizza_types.category as pizza_category,
    ROUND(SUM(order_details.quantity * pizzas.price), 2) AS total_revenue
FROM order_details
JOIN pizzas
    ON order_details.pizza_id = pizzas.pizza_id
JOIN pizza_types
    ON pizzas.pizza_type_id = pizza_types.pizza_type_id
GROUP BY pizza_types.category;
```

pizza_category	total_revenue
Classic	220053.10
Veggie	193690.45
Supreme	208197.00
Chicken	195919.50

```sql
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

	total_orders
▶	21350

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PRICE & SIZE INSIGHTS

-THESE QUERIES DISPLAY THE HIGHEST-PRICED PIZZA AND THE MOST COMMONLY ORDERED PIZZA SIZE AMONG CUSTOMERS.

```sql
SELECT
    name,
    (SELECT MAX(price) FROM pizzas) AS price
FROM pizza_types
WHERE pizza_type_id = (
    SELECT pizza_type_id
    FROM pizzas
    WHERE price = (SELECT MAX(price) FROM pizzas)
);
```

name	price
The Greek Pizza	35.95

```sql
SELECT
    pizzas.size as size_of_pizza, COUNT(*) AS no_of_times_ordered
FROM
    pizzas
JOIN
    order_details
    ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY no_of_times_ordered DESC;
```

size_of_pizza	no_of_times_ordered
L	18526
M	15385
S	14137
XL	544
XXL	28

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TOP SELLING PIZZAS

-THESE QUERIES HIGHLIGHT THE TOP-SELLING PIZZAS BASED ON QUANTITY AND TOTAL REVENUE EARNED.

```sql
SELECT
    pizza_types.name as pizza_name, SUM(order_details.quantity) AS total_quantity_ordered
FROM
    pizzas
JOIN
    order_details
ON pizzas.pizza_id = order_details.pizza_id
JOIN
    pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY pizza_types.pizza_type_id
ORDER BY total_quantity_ordered DESC LIMIT 5;
```

pizza_name	total_quantity_ordered
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

```sql
SELECT
    pizza_types.name as pizza_name,
    sum(order_details.quantity * pizzas.price) AS Total_Revenue
FROM
    order_details
JOIN
    pizzas
ON order_details.pizza_id = pizzas.pizza_id
join pizza_types
on pizzas.pizza_type_id = pizza_types.pizza_type_id
group by pizza_types.name
order by Total_Revenue desc limit 3
;
```

pizza_name	Total_Revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768.00
The California Chicken Pizza	41409.50

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CATEGORY-LEVEL INSIGHTS

-THESE QUERIES SHOW THE TOTAL QUANTITY OF PIZZAS ORDERED IN EACH CATEGORY AND HOW MANY PIZZA TYPES BELONG TO EACH CATEGORY.

```sql
SELECT
    pizza_types.category as pizza_category, SUM(order_details.quantity) AS total_quantity_ordered
FROM
    pizzas
JOIN
    order_details
ON pizzas.pizza_id = order_details.pizza_id
JOIN
    pizza_types
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY pizza_types.category
ORDER BY total_quantity_ordered DESC;
```

pizza_category	total_quantity_ordered
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

```sql
select category as pizza_category, count(name) no_of_pizzas from pizza_types
group by category;
```

pizza_category	no_of_pizzas
Chicken	6
Classic	8
Supreme	9
Veggie	9

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TIME-BASED INSIGHTS

-THESE QUERIES ANALYZE THE DISTRIBUTION OF ORDERS BY HOUR AND CALCULATE THE AVERAGE NUMBER OF PIZZAS ORDERED PER DAY.

```sql
select hour(order_time) as hours_time, count(order_id) as no_of_orders from orders
group by hours_time
order by no_of_orders desc;
```

hours_time	no_of_orders
12	2520
13	2455
18	2399
17	2336
19	2009
16	1920
20	1642
14	1472
15	1468

```sql
SELECT
    ROUND(AVG(day_order), 0) AS avg_order_per_day
FROM
    (SELECT
        orders.order_date, SUM(order_details.quantity) AS day_order
    FROM
        orders
    JOIN order_details
    ON orders.order_id = order_details.order_id
    GROUP BY orders.order_date)
AS order_per_day_list;
```

avg_order_per_day
138

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REVENUE ANALYSIS

```sql
SELECT
    pizza_types.pizza_type_id AS pizza_type,
    ROUND((SUM(order_details.quantity * pizzas.price) / (SELECT
                SUM(order_details.quantity * pizzas.price)
            FROM
                order_details
            JOIN
                pizzas ON order_details.pizza_id = pizzas.pizza_id) * 100),
        2) AS percentage_contribution
FROM
    pizzas
JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
JOIN
    pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
GROUP BY pizza_types.pizza_type_id
ORDER BY percentage_contribution DESC;
```

pizza_type	percentage_contribution
thai_ckn	5.31
bbq_ckn	5.23
cali_ckn	5.06
classic_dlx	4.67
spicy_ital	4.26
southw_ckn	4.24
ital_supr	4.09
hawaiian	3.95
four_cheese	3.95
sicilian	3.78

-THESE QUERIES CALCULATE THE PERCENTAGE CONTRO OF EACH PIZZA TYPE TO THE TOTAL REVENUE AND TRACK CUMULATIVE REVENUE GROWTH OVER TIME.

```sql
select orders.order_date, SUM(order_details.quantity * pizzas.price) AS daily_revenue,
    SUM(SUM(order_details.quantity * pizzas.price))
        OVER (ORDER BY orders.order_date) AS cumulative_revenue
from pizzas
join order_details
on pizzas.pizza_id = order_details.pizza_id
join orders
on orders.order_id = order_details.order_id
group by orders.order_date
order by orders.order_date;
```

order_date	daily_revenue	cumulative_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.90	5445.75
2015-01-03	2662.40	8108.15
2015-01-04	1755.45	9863.60
2015-01-05	2065.95	11929.55
2015-01-06	2428.95	14358.50
2015-01-07	2202.20	16560.70
2015-01-08	2838.35	19399.05
2015-01-09	2127.35	21526.40
2015-01-10	2463.05	23989.35

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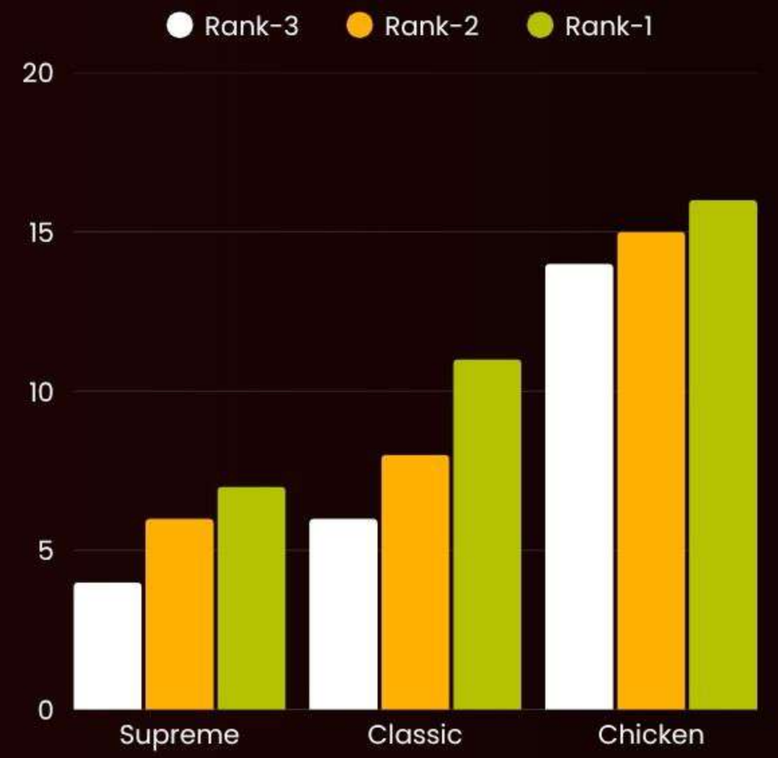
ADVANCED RANKING

```sql
SELECT
    category, name, revenue, rn
FROM (
    SELECT
        category,
        name,
        revenue,
        RANK() OVER(PARTITION BY category ORDER BY revenue DESC) AS rn
    FROM (
        SELECT
            pizza_types.category,
            pizza_types.name,
            SUM(order_details.quantity * pizzas.price) AS revenue
        FROM pizza_types
        JOIN pizzas
            ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN order_details
            ON order_details.pizza_id = pizzas.pizza_id
        GROUP BY pizza_types.category, pizza_types.name
    ) AS a
) AS b
WHERE rn <= 3;
```

category	name	revenue	rn
Chicken	The Thai Chicken Pizza	43434.25	1
Chicken	The Barbecue Chicken Pizza	42768.00	2
Chicken	The California Chicken Pizza	41409.50	3
Classic	The Classic Deluxe Pizza	38180.50	1
Classic	The Hawaiian Pizza	32273.25	2
Classic	The Pepperoni Pizza	30161.75	3
Supreme	The Spicy Italian Pizza	34831.25	1
Supreme	The Italian Supreme Pizza	33476.75	2
Supreme	The Sicilian Pizza	30940.50	3
Veggie	The Four Cheese Pizza	32265.70	1



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KEY INSIGHTS FROM ANALYSIS

- THE CLASSIC DELUXE PIZZA GENERATED THE HIGHEST REVENUE AMONG ALL PIZZAS.
- THE LUNCHTIME HOURS (12 PM – 2 PM) HAD THE MAXIMUM NUMBER OF ORDERS.
- THE LARGE (L) SIZE WAS THE MOST COMMONLY ORDERED PIZZA SIZE.
- THE CLASSIC CATEGORY CONTRIBUTED THE MOST TO TOTAL SALES QUANTITY.
- REVENUE SHOWS A STEADY INCREASE OVER TIME, PROVING CONSISTENT CUSTOMER DEMAND.

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TOOLS & SKILLS USED

- 🗃️ DATABASE: MYSQL
- ⚙️ KEY SQL CONCEPTS USED:
- JOIN (TO CONNECT MULTIPLE TABLES)
- GROUP BY AND ORDER BY (TO SUMMARIZE AND SORT DATA)
- AGGREGATE FUNCTIONS: SUM(), COUNT(), AVG()
- WINDOW FUNCTIONS: RANK() AND OVER() FOR RANKING AND CUMULATIVE TOTALS
- SUBQUERIES AND ALIASES FOR CLEANER QUERIES
- 📊 SKILLS DEMONSTRATED:
- DATA EXTRACTION AND CLEANING USING SQL
- DATA AGGREGATION AND PERFORMANCE ANALYSIS
- INTERPRETING BUSINESS INSIGHTS FROM RAW DATA

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PROJECT SUMMARY

- THIS PROJECT FOCUSED ON ANALYZING PIZZA-SALES DATA USING MYSQL.
- ALL INSIGHTS — SUCH AS TOTAL REVENUE, POPULAR PIZZA TYPES, AND ORDER PATTERNS — WERE OBTAINED THROUGH STRUCTURED SQL QUERIES.
- THE GOAL WAS TO PERFORM A COMPLETE DATA-DRIVEN ANALYSIS USING SQL ALONE, WITHOUT EXTERNAL TOOLS.
- IT DEMONSTRATES HOW SQL CAN BE POWERFUL FOR BUSINESS ANALYTICS AND DECISION-MAKING.
- NEXT STEPS:
- ➡️ VISUALIZE THIS DATA IN POWER BI OR PYTHON FOR A DASHBOARD VIEW.
- ➡️ EXPLORE CUSTOMER-BASED ANALYSIS LIKE MOST LOYAL CUSTOMERS OR PEAK ORDER DAYS.

THANK YOU!